



# COURSE OUTLINE

## NRT0211

Prepared: John Clement    Approved: Sherri Smith

<b>Course Code: Title</b>	NRT0211: PARK PROTECTION FOR CICE
<b>Program Number: Name</b>	1120: COMMUNITY INTEGRATN
<b>Department:</b>	C.I.C.E.
<b>Semester/Term:</b>	18W
<b>Course Description:</b>	This course examines the effects of natural and man created disturbances (forest fires, forest insects, tree diseases and recreational stressors) on the ecological health of and their management in, parks and protected areas. Fire ecology, fire suppression and fire use (prescribed burning) concepts, tools and techniques are introduced. Park protection issues will be covered including: assessing and ameliorating the impacts of recreational activities on parks, invasive plant species, restoration concepts, the concept of ecological integrity, and commemorative heritage protection.
<b>Total Credits:</b>	3
<b>Hours/Week:</b>	3
<b>Total Hours:</b>	45
<b>Essential Employability Skills (EES):</b>	<p>#1. Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience.</p> <p>#2. Respond to written, spoken, or visual messages in a manner that ensures effective communication.</p> <p>#4. Apply a systematic approach to solve problems.</p> <p>#5. Use a variety of thinking skills to anticipate and solve problems.</p> <p>#6. Locate, select, organize, and document information using appropriate technology and information systems.</p> <p>#7. Analyze, evaluate, and apply relevant information from a variety of sources.</p> <p>#8. Show respect for the diverse opinions, values, belief systems, and contributions of others.</p> <p>#9. Interact with others in groups or teams that contribute to effective working relationships and the achievement of goals.</p> <p>#10. Manage the use of time and other resources to complete projects.</p> <p>#11. Take responsibility for ones own actions, decisions, and consequences.</p>
<b>General Education Themes:</b>	Science and Technology
<b>Course Evaluation:</b>	Passing Grade: 50%, D



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### Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Commemorative Protection Assignment	10%
Final Exam	20%
Fire Weather Index Assignment	10%
Hard Body Fungus ID Quiz	10%
Hard Body Fungus Photos	10%
Insect ID Quiz	10%
Tree Health Assessment	10%
Tree Pests by Species Research Assignment	20%

### Books and Required Resources:

Simon and Schuster's Guide to Mushrooms by Lincoff  
Publisher: Touchstone

### Course Outcomes and Learning Objectives:

Upon successful completion of this course, the CICE student, with the assistance of a Learning Specialist will acquire varying levels of skill development relevant to the following learning outcomes:

#### Course Outcome 1.

Assess the health of forest trees in park areas.

#### Learning Objectives 1.

- Complete a health assessment of a tree in a park area including live crown to height ratio, per cent crownal necrosis, crown density, bark vigour, and visible pathogens.
- Recognize and identify signs and symptoms of forest tree diseases. - Describe and identify biotic and abiotic stressors of forest trees in park areas.
- Explain environmental influences on forest tree health including temperature, cultural damage, construction damage, humidity, wind, precipitation, and fire .
- Describe park management strategies to protect tree health.
- Research forest pathogens by species.

#### Course Outcome 2.



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Describe the ecological role and management of, biotic and abiotic stressors of forest trees in park areas.

### **Learning Objectives 2.**

- Classify forest tree diseases by taxonomic, biotic, abiotic, decline, host, part of tree, parasitic / saprobic, and necrotic / atrophic / hypertrophic methods.
- Recognize and identify signs and symptoms of forest disease.
- Identify and describe abiotic stress factors that affect tree health.
- Identify and describe biotic stress factors as agents of tree disease including fungi, bacteria, viruses and parasitic plants.
- Collect and identify hard body fungus types for interpretive purposes. -Describe life cycles of mycorrhizae, fungi, rusts and decline diseases.

### **Course Outcome 3.**

3) Describe identification features and life cycles of six orders of forest insects including Lepidoptera, Coleoptera, Hymenoptera, Diptera, Hemiptera, and Homoptera found in park areas.

### **Learning Objectives 3.**

- Potential Elements of the performance:
- Recognize and label diagrams of various insect body parts and body regions.
- Describe how forest insects are classified according to taxonomy, feeding location and host species.
- Draw diagrams of the life cycles for the six orders.

### **Course Outcome 4.**

Describe the ecological role and management of, forest insects in park areas

### **Learning Objectives 4.**



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- Recognize and identify signs and symptoms of insect damage.
- Explain natural control methods including virus, bacteria, and introduced pests.
- Explain environmental impacts on insect populations including temperature, humidity, wind, precipitation, and fire.
- Describe elements of integrated pest management
- Discuss the limitations and environmental implications of each type of control method.
- These outcomes will constitute approximately 20% of the course.

### **Course Outcome 5.**

Describe the ecological role and management of, forest fires in park areas.

### **Learning Objectives 5.**

- Describe the Canadian Forest Fire Weather Index.
- Explain the role of forest fire in fire dependant ecosystems.
- Operate forest fire suppression equipment (pumps, hand tools, etc.
- Describe fire use (prescribed burn) objectives and planning procedures.
- Discuss the environmental implications of forest fire suppression vs. fire management in park areas

### **Course Outcome 6.**

Describe commemorative protection measures and other park protection issues.

### **Learning Objectives 6.**

Research a park area and explain the ways the park is protecting commemorative values.  
-Explain the role of interpretation in commemorative value protection.  
This outcome is work approx. 10% of the course.

#### **CICE Modifications:**

#### **Preparation and Participation**

1. A Learning Specialist will attend class with the student(s) to assist with inclusion in the class and to take notes.
2. Students will receive support in and outside of the classroom (i.e. tutoring, assistance with



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homework and assignments, preparation for exams, tests and quizzes.)

3. Study notes will be geared to test content and style which will match with modified learning outcomes.

4. Although the Learning Specialist may not attend all classes with the student(s), support will always be available. When the Learning Specialist does attend classes he/she will remain as inconspicuous as possible.

**A.** Further modifications may be required as needed as the semester progresses based on individual student(s) abilities and must be discussed with and agreed upon by the instructor.

**B. Tests may be modified in the following ways:**

1. Tests, which require essay answers, may be modified to short answers.

2. Short answer questions may be changed to multiple choice or the question may be simplified so the answer will reflect a basic understanding.

3. Tests, which use fill in the blank format, may be modified to include a few choices for each question, or a list of choices for all questions. This will allow the student to match or use visual clues.

4. Tests in the T/F or multiple choice format may be modified by rewording or clarifying statements into layman's or simplified terms. Multiple choice questions may have a reduced number of choices.

**C. Tests will be written in CICE office with assistance from a Learning Specialist.**

***The Learning Specialist may:***

1. Read the test question to the student.

2. Paraphrase the test question without revealing any key words or definitions.

3. Transcribe the student's verbal answer.

4. Test length may be reduced and time allowed to complete test may be increased.

**D. Assignments may be modified in the following ways:**

1. Assignments may be modified by reducing the amount of information required while maintaining general concepts.

2. Some assignments may be eliminated depending on the number of assignments required in the particular course.

***The Learning Specialist may:***



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1. Use a question/answer format instead of essay/research format
2. Propose a reduction in the number of references required for an assignment
3. Assist with groups to ensure that student comprehends his/her role within the group
4. Require an extension on due dates due to the fact that some students may require additional time to process information
5. Formally summarize articles and assigned readings to isolate main points for the student
6. Use questioning techniques and paraphrasing to assist in student comprehension of an assignment

### **E. Evaluation:**

Is reflective of modified learning outcomes.

**NOTE:** Due to the possibility of documented medical issues, CICE students may require alternate methods of evaluation to be able to acquire and demonstrate the modified learning outcomes

**Date:**

Wednesday, September 6, 2017

Please refer to the course outline addendum on the Learning Management System for further information.